

CLAIMS

What is claimed is:

- 1 1. A method of controlling content usage in a personal communication device
2 using a decryption key that is divided into a plurality of key-shares, the method
3 comprises:
4 providing the personal communication device a first key-share in response
5 to a request for content; and
6 verifying credit of a user of the personal communication device;
7 providing the personal communication device a second key-share when the
8 credit is confirmed; and
9 combining the first and second key-shares with a third key share stored in
10 the personal communication device for use in decrypting content.
- 1 2. The method as claimed in claim 1 wherein the method includes:
2 monitoring usage of the content with a security processor of the personal
3 communications device; and
4 purging at least one of the key-shares from the personal communication
5 device when the usage exceeds one of a set of measurement parameters stored in
6 the personal communications device of the set.
- 1 3. The method as claimed in claim 2 further comprising receiving the request for
2 the content from the personal communication device, the request identifying the
3 content and the measurement parameters for the content.
- 1 4. The method as claimed in claim 1 further including:
2 receiving the content from a content server in a security server;
3 encrypting the content in the security server with the encryption key; and
4 providing the encrypted content from the security server to the personal
5 communication device over a wireless communication link.

1 5. The method as claimed in claim 4 wherein the content server and the security
2 server communicate over a non-secure network, and the method includes the
3 content server adding security to the content prior to providing the content to the
4 security server.

1 6. The method as claimed in claim 1 wherein the providing the first of the key-
2 shares is performed by a security server in communication with the personal
3 communication device.

1 7. The method as claimed in claim 1 wherein the third of the key-shares is stored
2 in a subscriber identity module (SIM) associated with the user, and wherein a
3 fourth of the key-shares is stored in the personal communication device and
4 associated with a security processor of the personal communication device, and
5 wherein the security processor combines the first, second, third and fourth key-
6 shares to decrypt the encrypted content.

1 8. The method as claimed in claim 1 wherein the verifying credit of the user and
2 the providing the second of the key-shares to the personal communication device
3 are performed by a finance server in communication with the personal
4 communication device.

1 9. The method as claimed in claim 1 wherein the plurality of key-shares are
2 Blakley-Shamir key-shares.

1 10. The method as claimed in claim 1 wherein the content comprises either video
2 content or music content.

1 11. The method as claimed in claim 1 further comprising generating a set of
2 measuring parameters comprising at least one of a date-limit, a run-time limit, and
3 an iteration limit, and wherein the personal communication device monitors usage
4 of the content with respect to the measurement parameters and purges at least one

5 of the key-shares when the usage exceeds one of the measurement parameters of
6 the set.

1 12. The method as claimed in claim 11 comprising a content server defining the
2 set of measurement parameters based on preferences of a content provider.

1 13. The method as claimed in claim 11 wherein the date-limit defines an end
2 calendar date for playing the content, the run-time limit defines a maximum
3 amount of time for playing portions of the content, and the iteration limit defines a
4 maximum number of times for playing the content or portions thereof.

1 14. The method as claimed in claim 12 wherein the measurement parameters have
2 an authentication code associated therewith, and wherein a security processor of
3 the personal communication device purges at least one of the key-shares when the
4 authentication code fails to authenticate.

1 15. The method as claimed in claim 1 wherein the personal communication device
2 receives the first and second of the key-shares over a wireless communication
3 link.

1 16. A processing system for use in a personal communication device, the
2 processing system comprising:
3 a security processor portion to combine a plurality of key-shares and
4 decrypt content for the processing system, the security processor portion including
5 a monitor for usage of the content constructed and arranged to purge at least one
6 of the key-shares when the usage exceeds a measurement parameter; and
7 a communications processor portion to receive decrypted content from the
8 security processor portion and providing decrypted content for playing on the
9 personal communication device.

1 17. The processing system as claimed in claim 16 wherein the measurement
2 parameters have an authentication code associated therewith and wherein the
3 security processor portion purges at least one of the key-shares when the
4 authentication code fails to authenticate.

1 18. The processing system as claimed in claim 16 wherein the security processor
2 portion has a first of the key-shares stored therein, retrieves a second of the key-
3 shares from a subscriber identity module inserted into the personal
4 communication device, and receives a third of the key-shares from a finance
5 server when a user's credit is verified for use of the content.

1 19. The processing system as claimed in claim 16 wherein the measurement
2 parameters comprise at least one of a date-limit, a run-time limit, and an iteration
3 limit, and wherein the security processor portion monitors usage of the content
4 with respect to the measurement parameters and purges at least one of the key-
5 shares when the usage exceeds one of the measurement parameters of the set.

1 20. The processing system as claimed in claim 16 further comprising an
2 applications processor portion to process applications running on the personal
3 communication device, and wherein the security processor portion,
4 communications processor portion and applications processor portion are part of a
5 processor area and fabricated on an application specific integrated circuit (ASIC).

1 21. A personal communication device comprising:
2 a processor area to store first key-share therein;
3 a module receiving area to receive a subscriber identity module (SIM), the
4 SIM having a second-key share stored therein; and
5 an RF interface to receive a third key-share and encrypted content over a
6 wireless communication link,
7 wherein the processor area includes apparatus constructed and arranged to
8 combine the first, second and third key-shares to decrypt the encrypted content
9 and monitor playing of the decrypted content against measurement parameters.

1 22. A personal communication device as claimed in claim 21 wherein the
2 measurement parameters have an authentication code associated therewith and
3 wherein the processor area purges at least one of the key-shares when usage of the
4 content exceeds a measurement parameter, or when the authentication code fails
5 to authenticate.

1 23. A personal communication device as claimed in claim 21 wherein the
2 processor area receives the third key-share from a finance server when a user is
3 approved for use of the content in accordance with the measurement parameters.

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